

# **DR. ALFRED CALLAHAN'S RULE 26 REPORT**



RUFFINO

Statement/Report:

(i) and (ii):

OPINION 1:

This middle aged hypertensive smoker with hyperlipidemia had repeated transient hemisphere attacks due to activated plaque in the left middle cerebral artery culminating in stroke on 17 FEB 2016.

FACTS:

John Ruffino in his deposition reported having episodes of right arm numbness and heaviness with dizziness on 15 DEC 2015 (page 14). Mrs. Ruffino in her deposition reported the first episode occurred in WalMart with sudden speech arrest and heaviness to the right arm (page 28). Dr. Valdiva recorded from his wife stereotypic spells lasting 10-15 minutes without adventitious motor activity (CMC 030). A trial of gabapentin did not eliminate the episodes.

On 17 FEB 2016 the episode recurred while driving a truck. Mr Ruffino was able to pull the truck over and call his boss who called 911 (Stone Crest 11). EMS reported speech slightly slurred (CMC 183). Mr. Ruffino arrived by EMS at Stone Crest at 0949 hrs and the intake report was a negative physical exam. A head CT (CTH) was obtained at 1027 hrs which on review was negative for hemorrhage or ischemic stroke. Vascular calcification was noted in the right internal carotid artery and both vertebral arteries.

Nursing notes record a normal examination at 1015 hrs (SC 15), 1100 hrs (SC 17) and 1300 hrs (18). The examining physician noted weakness to the right arm and face along with slurred speech at 1220 hrs. At 1253 a "code stroke" was initiated (SC 22). Nursing notes indicate expressive aphasia with normal power at 1400 hrs (SC 19), and normal speech at 1600 hrs (SC 20). By 1704 there was expressive aphasia and normal power (SC 20) and at 1825 there was normal speech and the patient ambulated to the head (SC 21). Mrs Ruffino in her deposition says she helped her husband ambulate to the bathroom (74). At 1927 and 2114 there was right weakness and expressive aphasia (SC 22).

A CTA of the head and neck was performed at 1409 hours. On review this study showed non-obstructive plaque at the left ICA origin (image 66/101) and decreased flow in the L-M1 segment. Coronal views confirmed mid L-M1 near total occlusion and the anterior temporal branch was not identified.

Neurologic consultation recommended no treatment believing the onset of symptoms was 0830(SC 9,27,28). At 2250 hours, Mr Ruffino was transferred to Centennial Medical Center(CMC) where an NIHSS was 13(CMC 030).

Advanced imaging was performed at CMC on 18 FEB 2016 at 1247. A CT perfusion study showed a large L-MCA stroke. A plain brain MRI(MRIH) at 2018 hrs showed a deep stroke with cortical changes in the left temporal and left hi-frontal region.

Mr. Ruffino was discharged home on 26 FEB 2016 taking clopidogrel 75 mg, aspirin, atorvastatin 40 mg, gabapentin 300 mg and lisinopril 20 mg daily. NIHSS at discharge was either 3(CMC 086) or 6(CMC 090). He was re-admitted to CMC after a fall at home on 27 FEB 2016 at 2033 hours with a NIHSS of 21(CMC 302, 321).

Followup CTH on 27 FEB 2016 at 1950 hours showed a deep left hemisphere stroke with similar tissue change on a MRIH on 28 FEB 2016 at 0828. This study showed NO cortical change and no new area(s) of restricted diffusion.

On 03 MAR 2016 he was discharged to St. Thomas Midtown Rehab. Subsequent imaging on 12 AUG 2016 on review confirmed no new stroke and showed the prior deep left hemisphere stroke. On black blood sequences there was clot or plaque or both in the proximal L-M1(see image 22/28).

OPINION 2: Endovascular re-perfusion treatment on 17 FEB 2016 after hospital arrival would have provided benefit and Mr. Ruffino was a candidate for such treatment. Because of the crescendo pattern of the TIAs preceding the stroke, the time window for beginning endovascular treatment is from 0949 on 17 FEB 2016 until 0327 on 18 FEB 2016. The provided benefit from such treatment is functional independence(modified Rankin score of  $\leq 2$ ).

#### FACTS:

A waxing and waning course is common for transient hemisphere attacks with the patient normal between attacks. The time window for endovascular intervention is within 6-8 hours of last known normal. Multiple randomized clinical trials have confirmed its efficacy. In 3 of the trials, benefit exceeded 50%(ESCAPE, EXTEND IA and SWIFT PRIME).

Arrival at Stone Crest at 0949 hours was within 70 minutes of the reported EMS call. Prior to the MD note at 1220 hrs documenting an abnormal examination, the prior examinations were reported negative/normal. Post 1220 hrs there were again periods of normal speech and no motor weakness. However, after 1927 hrs there was never another normal neurologic examination.

**Materials reviewed:**

**Stone Crest medical records for 17 FEB 2016**

**Centennial Medical Center records for FEB 2016**

**Imaging from Stone Crest and Centennial Medical Center**

**Depositions: Dr. Clark Archer, Nurse McCulloch, Nurse Bromley, John and Martha Ruffino**

**(iii) There are no provided exhibits**

**(iv) See attached CV.**

**(v) See attached listing.**

**(vi) Review of materials and discussions were billed at \$500/hr. To date \$3500 has been paid.**



**A.S. Callahan III, MD**

## CURRICULUM VITAE

**NAME:** Alfred Samuel Callahan III

**PLACE OF BIRTH:** Columbus, Georgia

**DATE OF BIRTH:** 13 December 1948

**CITIZENSHIP:** US

**FAMILY:** Married to Helen McLaurin Beatty; two sons, Ted, Mark

**RESIDENCE:** 3428 Woodmont Blvd, Nashville, TN 37215

**BUSINESS:** Stroke & Heart Attack Prevention Center  
2000 Glen Echo Rd, Suite 122  
Nashville, TN 37215  
615 297 5300

**EMAIL:** [stealthasc@earthlink.net](mailto:stealthasc@earthlink.net)

**LICENSURE:** Tennessee, Massachusetts, Alabama, Kentucky

**EDUCATION:**

1971 SB Massachusetts Institute of Technology

1975 MD Vanderbilt University School of Medicine

**POST-GRADUATE TRAINING:**

1975-1976 Intern, internal medicine, Vanderbilt University Hospital

1976-1977 Resident, internal medicine, Vanderbilt University Hospital

1977-1980 Resident, neurology, Massachusetts General Hospital  
Fellow, neurology, Harvard Medical School

**SPECIALTY BOARD CERTIFICATION:**

1976 National board of medical examiners

1977 American board of internal medicine

1992 Neurosonology-cerebrovascular disease and physics,  
American society of neuroimaging

**ACADEMIC POSITIONS:**

1980-1981	Assistant professor (tenure track), neurology, University of South Alabama
	Director, Clinical neurophysiology laboratory Mobile General Hospital Mobile, Alabama
1980's	Clinical assistant professor, neurology, Vanderbilt
Feb 05-Pres	Clinical professor of nursing (medicine), School of Nursing, Vanderbilt
Mar 09-Pres	Associate clinical professor (adjunct faculty), Vanderbilt
Oct 09-Pres	Adjunct associate professor, neurology, Meharry

**MEMBERSHIPS:**

Alpha Omega Alpha, 1974

**HONORS:**

1971-1975	Justin Potter merit scholar, Vanderbilt
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**CIVIC ROLES:**

1992-1995	Dean's advisory committee, Harvard School of Dental Medicine
1999-2005	Board, Nashville affiliate AHA
2001-2002	President-elect, Nashville affiliate AHA
2002-2003	President, Nashville affiliate AHA
2001-2005	Member, acute events committee, southeastern affiliate AHA
1999-2005	Chair, Operation Stroke, AHA

CV  
A.S. Callahan III  
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**RESEARCH DUTIES:**

1999                      Writing subcommittee, Proact II

Proact II was a phase 3 clinical trial of intra-arterial thrombolysis with r-proUK. My program at Centennial Medical Center was the 3<sup>rd</sup> largest enrolling center. This study provided proof of principle of catheter-directed thrombolysis within a 6-hour window in patients with middle cerebral artery stem occlusions.

1999                      Steering committee, SPARCL

SPARCL was a worldwide trial of atorvastatin for secondary stroke prevention. More than 4700 subjects participated in this placebo-controlled trial. The results of the study changed healthcare guidelines around the world. The study came from my proposal to Parke-Davis (now Pfizer).

2001                      Muhlenberg vascular project (originator)

Vascular healthcare delivery in a rural Kentucky country (Muhlenberg, population 32,000). This project contributed to a reduction of stroke risk by 47% over a 3-year period. A paper detailing methods and results was published in 2004.

2002                      Public awareness subcommittee, NINDS

NINDS convened a national consensus conference to review papers written by subcommittees. The consensus paper was published in book form in 2003.

2005                      Integrated vascular medicine program

A program of novel care sites and integrated vascular medicine with successful treatment to targets within 6 weeks for 70% of those evaluated.

2010                      Carotid artery endothelial permeability and risk of  
atherosclerotic cardiovascular disease in a primary  
prevention population (IRB #091270, Vanderbilt)

Patients with genetically low LDL (< 100 mg/dL) who have elevated carotid wall thickness and lipid flux rates are to be studied with MRI techniques using gadolinium ingress across the carotid arterial wall. Another novel population with genetically elevated LDL (> 160 mg/dL) without an increase in carotid wall thickness or lipid flux rate serves as the control group (galvanized).

PUBLICATIONS:

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2. Callahan AS, Netsky MG and Stone W. Dialysis and Subdural hematoma. Dialysis and Transplantation 1980; 9: 240.
3. Taylor MD, Palmer GC and Callahan AS. Alternations of catecholamine-sensitive adenylate cyclase in gerbil cortex after bilateral ischemia. Exp Neurol 1982; 76: 495-5-7.
4. String ST and Callahan AS. The critical manipulable variables of hemispheric low flow during carotid surgery. Surgery 1983; 93 (1): 46-9.
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8. Christie-Pope GC, Chronister RB, Callahan AS. Adenylate cyclase and histopathology changes in gerbil brain following ischemia and recirculation. Stroke 1985; 64 (4): 710-7.
9. Palmer GC, Palmer SJ, Christie-Pope GC, Callahan AS, Taylor MD and Eddy LJ. Classification of ischemic in ischemia induced damage to Na<sup>+</sup>, K<sup>+</sup> ATPase in gerbil forebrain: modification by therapeutic agents. Neuropharm.
10. Christie-Pope GC, Palmer GC, Callahan AS and Palmer SJ. Modification of ischemia induced damage in adenylate cyclase and Na<sup>+</sup>, K<sup>+</sup> ATPase in gerbil cortex by calcium channel blockers (flunarizine and verapamil). Stroke.



11. Weindling SM, Robinette CL and Callahan AS. Radiology case of the month: schizencephaly with heteroptic gray matter. J TN Med Assoc 1991 Nov; 84 (11): 549-50, 552.
12. Robinette CL, Weindling SM and Callahan AS. Radiology case of the month: carbon monoxide poisoning. J TN Med Assoc 1991 Oct; 84 (10): 496-7, 499.
13. Dyer EL and Callahan AS. Charcot-Marie Tooth disease and respiratory failure. Chest 1988 Jan; 93 (1): 221. Letter.
14. Callahan AS and Berger BL. Intra-arterial thrombolysis in acute ischemic stroke. TN Med Feb; 90 (2): 61-64.
15. Callahan AS and Berger BL. Balloon angioplasty of intracranial arteries for stroke prevention. J Neuroimag 1997 Oct; 7 (4): 232-5.
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17. Callahan AS and Berger BL. Basilar artery endoprosthesis placement/rescue therapy for recurrent thrombosis. J Neuroimag 2000 Jan; 10 (1): 47-8. First report of intracranial stenting in world.
18. The Proact investigators. PROACT II: a phase 3 randomized trial of clinical efficacy of direct inter-arterial recombinant pro-urokinase in patients with acute ischemic stroke due to middle cerebral artery occlusion of less than 6 hours duration. JAMA 1999 Dec; 282 (21): 2003-11.
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21. Callahan AS. Vascular pleiotropy of statins: clinical evidence and biochemical mechanisms. *Cur Atheroscler Reports* 2003; 5 (1): 33-7.
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**ABSTRACTS:**

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18. Berger B and Callahan A. Balloon angioplasty for stroke prevention: results in 73 cases. *Interven Neuroradiol* 1997; 3 (1).
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32. Goldstein, L, Amarenco P, Szarek M, Callahan A, Hennerici M, Sillesen H, Zivin J and Welch M. Secondary analysis of hemorrhagic stroke in SPARCL. Stroke 2007; 38: 457.
33. Sillesen H, Amarenco P, Callahan A, Goldstein L, Hennerici M, Rudolph A, Simunovic L, Zivin J and Welch M. Atrovastatin treatment in patients with carotid stenosis is associated with marked reduction in risk of stroke, cardiac events and endarterectomy in SPARCL. Stroke 2007; 38: 457.
34. Callahan A, Welch M, Amarenco P, Szarek M, Rudolph A, Goldstein L, Hennerici M, Sillesen H and Zivin J. Risk of stroke and cardiovascular events in patients with type 2 diabetes or metabolic syndrome in SPARCL. ADA Jun 2007 (Chicago).

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35. Campese V, Callahan A, Rudolph A, Messig M, Amarenco P, Goldstein L, Hennerici M, Sillesen H, Zivin J and Welch M. Effect of high dose atorvastatin on renal function: a secondary analysis of SPARCL. Circ Suppl II 116 (16), Oct 26, 2007: 11-471.
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#### EDITORIALS:

Goldstein L, Amarenco P, Bougousslavsky J, Callahan A, Hennerici M, Zivin J, Welch M and Sillesen H. Statins for secondary stroke prevention in patients without known coronary artery disease: the jury is still out. Cerebrovasc Dis 2004; 18: 1-2.

#### BOOKS:

Callahan AS. The Next Medical Revolution: Angiology. Altman, 2004. ISBN: 1 86036 0297.

Callahan AS: Care For Me.

#### PATENTS:

- |          |   |
|----------|---|
| #4412547 | Neurological monitoring device (shoe box processed EEG) |
| #442816  | Neurological monitoring device test circuitry           |
| #        | EEG electrodes  |

#### OTHER PROJECTS:

- |           |   |
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| 2002-2005 | TriStar pilot stroke project. Acute stroke care in community hospitals leading to Primary Stroke Center certification. The first hospital certified by JCAHO in TN was Skyline, which was part of this project. |
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**ALFRED S. CALLAHAN LEGAL CASE LISTING**

**DEPOSITIONS**

**TRIALS**

**PELFREY v BROWNING 07/28/2015**

**ZAFFINO v METRO NASHVILLE PUBLIC SCHOOLS 06/29/2016**

**SENTERS v REDDY 07/20/2016**

**GARDNER v RASHIDIAN , et al ,09/21/2016**

**SCOTT v RANDALL BURGESS & THREE RIVERS XPRESS (IME/DEPO) 12/21/2016**

**PORTER VS VISSERS 01/10/2017**

**DIAZ v PIKEVILLE HOSPITAL 03/21/2017**

**TOTH v WHITE RIVER HEALTH SYSTEM 04/12/2017**

**QUORIZ v DR.BARNES, et al, 04/17/2017**

**TERRIEN v MARTIN MEMORIAL HOSPITAL 07/19/2017**